



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,926	10/30/2003	Esko Nieminen	872.0154.U1(US)	8231
29683 7590 01/22/2007 HARRINGTON & SMITH, PC 4 RESEARCH DRIVE SHELTON, CT 06484-6212			EXAMINER ABRAHAM, ESAW T	
			ART UNIT	PAPER NUMBER
			2133	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/22/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/696,926	<b>Applicant(s)</b> NIEMINEN, ESKO	
	<b>Examiner</b> Esaw T. Abraham	<b>Art Unit</b> 2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11/06/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 8, 10-12, 17 and 19-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-7, 9, 13-16 and 18 is/are allowed.
- 6) ☒ Claim(s) 1-3, 8, 10-12, 17 and 19-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to the applicant's amendments***

Applicant's arguments, see Remark pages 9-15, filed 11/06/06, with respect to the rejection(s) of claim(s) 1-3, 8, 10-11, 17 and 19-29 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made 35 U.S.C. 112 and 35 U.S.C. 101, *Non Statutory* of rejection.

***Status of Claims***

1. Claims **1-3, 8, 10-11, 17 and 19-29** remain pending.

***Claim objections***

2. Claims 19, 21, 23, 25 and 28 are objected to because of the following informalities:

- a) Change the term "operable" to "configured to operate"

***Claim Rejections - 35 USC § 101, Non Statutory***

3. Claims **1-3, 8, 10-11, 17 and 19-29** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter because:

Claims **1, 10, 19, 23 and 28** are directed "monitoring a signal and a value and based on the value a valid code word or noise is determined". The claimed subject matter lacks a practical application of a judicial exception (law of nature, abstract idea, naturally occurring article/phenomenon) since it fails to produce a useful, concrete and tangible result.

Specifically, the claimed subject matter does not produce a useful result because the claimed subject matter fails to sufficiently reflect to at least one practical utility set forth in the descriptive portion of the specification. More specifically, while the described practical utility (utilities) is directed to "the behavior of the extrinsic values during iterative turbo decoding and when the absolute value of the extrinsic values tend to increase during the decoding process, the signal comprises a valid code (turbo coded code word) or if the value does not increase, the signal comprises a noise and further this invention monitors a sum of absolute values of extrinsic values during the decoding process and determines from the growth rate of the sum if a signal containing a turbo coded code word was received". It has been found that the most reliable results are obtained by monitoring the extrinsic values of a first and a last turbo round. (see Applicants specification, page 10)", the claimed subject matter relates ONLY to "monitoring a received signal and an extrinsic value and based on the value a valid code word or noise is determined".

Further, claim 1 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. There is no limitation in any of claims 1-3 that even suggest that any hardware is required to carry out the Limitations in claims 1-3 since the claims only teaches "monitoring a signal and a value and based on the value a valid code word or noise is determined". For example, the noise/signal detector 70 may thus be considered to form a part of the turbo decoder 50, and to thus together provide the improved turbo decoder 60 and in accordance with this invention monitors a sum of absolute values of extrinsic values during the decoding process and determines from

the growth rate of the sum if a signal containing a turbo coded code word was received. It has been found that the most reliable results are obtained by monitoring the extrinsic values of a first and a last turbo round. Hence claim 1 directed to non-statutory subject matter.

Claim 2-3, 8, 11-12, 17, 20-22, 24-27 and 29 depend from respective claims 1, 10, 19, 23 and 28, hence inherit the deficiencies of claims 1, 10, 19, 23 and 28.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 19 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: "a circuitry and a portion of turbo decoder "

It is not clear where in the claimed circuitry is exactly located. It is not clear if the circuitry is confined inside the turbo decoder or externally connected to the same. The interconnections of such elements cannot be clearly understood from the claimed language for proper examination purposes.

5. Claims 1, 10, 19, 23 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 10, 19, 23 and 28 recite, "monitoring a signal, a value and based on the monitored value, a valid code word or noise is determined / means for monitoring and means for determining [emphasis added]". It is unclear how the at least one extrinsic value affect to determine the signal to comprise either a valid code word or noise. For example, the signal to comprise the valid code word or the only noise could be determined only if the monitored extrinsic value satisfy a certain conditions.

Claim 28 recites, "'comprises a valid codeword to be decoded or comprises a noise". The term "**to be decoded**" is indefinite.

Claim 2-3, 8, 11-12, 17, 20-22, 24-27 and 29 depend from respective claims 1, 10, 19, 23 and 28, hence inherit the deficiencies of claims 1, 10, 19, 23 and 28.

#### *Conclusion*

6. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Esaw Abraham whose telephone number is (571) 272-3812. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are successful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300.

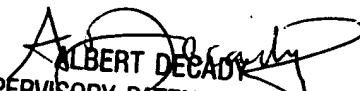
Information regarding the status of an Application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or PUBLIC PAIR. Status information for unpublished applications is available through Private Pair only. For more

Art Unit: 2133

information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Esaw Abraham

Art unit: 2133

  
ALBERT DECADY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100